

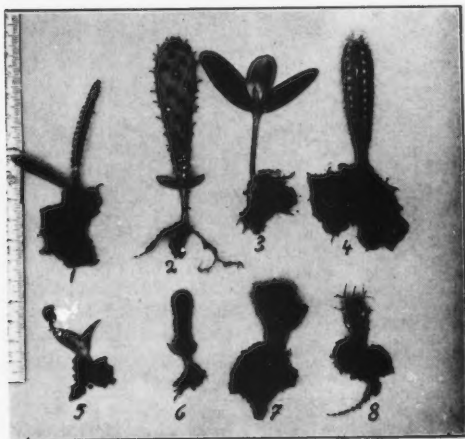
# CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society  
Of America

Vol. II

APRIL, 1931

No. 10



Seedlings still with their cotyledons.



Journal of the

## CACTUS AND SUCCULENT SOCIETY OF AMERICA

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THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

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A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. "The Cactaceae," by N. L. Britton and J. N. Rose, has been adopted by this Journal for purposes of identification. (Membership and subscription \$3.00 per year, foreign \$3.50.) Mail membership application and subscription to the Secretary, Mr. W. M. Ketteringham, 610 West 65th Street, Los Angeles, Calif.

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## GENUS OPUNTIA

## SUB-GENUS CYLINDROPUNTIA

## Series Salmianae

By DR. A. D. HOUGHTON

This, the tenth series of the sub-genus CYLINDROPUNTIA, branching and many jointed, having spines without sheaths, joints which are not tuberculate, or club-shaped, or crested, contains for a certainty but one, low, slender species, *Opuntia salmiana*.

Schumann made this his series *Frutescentes* (frutescent, meaning shrubby). He included two varieties as species, *O. spegazzini*, supposed to be spineless; and *O. albiflora*, a white flowered form. Neither of these variable forms are considered by Britton and Rose to be distinct enough to constitute a species.

*Opuntia salmiana*, Parmentier, a bushy plant 1 to 6 feet high, according to position in which it grows, much branched at the base; when grown under glass might readily be mistaken for *O. leptocaulis*, but for the fact that *O. leptocaulis* has spines with sheaths, and the flowers are smaller in *O. leptocaulis* than in *O. salmiana*, the branches are weak, terete (without angles) about 1/2 inch thick or less, often purplish in color and without tubercles; the areoles are small, bearing wool, with yellow glochids and spines; the spines are sometimes absent, but usually, there are several white spines about 1/2 inch long; flowers from 3/4 of an inch to 2 inches across, scattered along the stem, with pinkish or even

scarlet buds; while the obovate petals range from pale yellow to white and are sometimes tinged with pink; the fruits are sterile, i.e., having examined hundreds of fruits, I have not found a seed. They are clavate, scarlet, with few or no spines, but often have spiny joints growing out of the fruit.

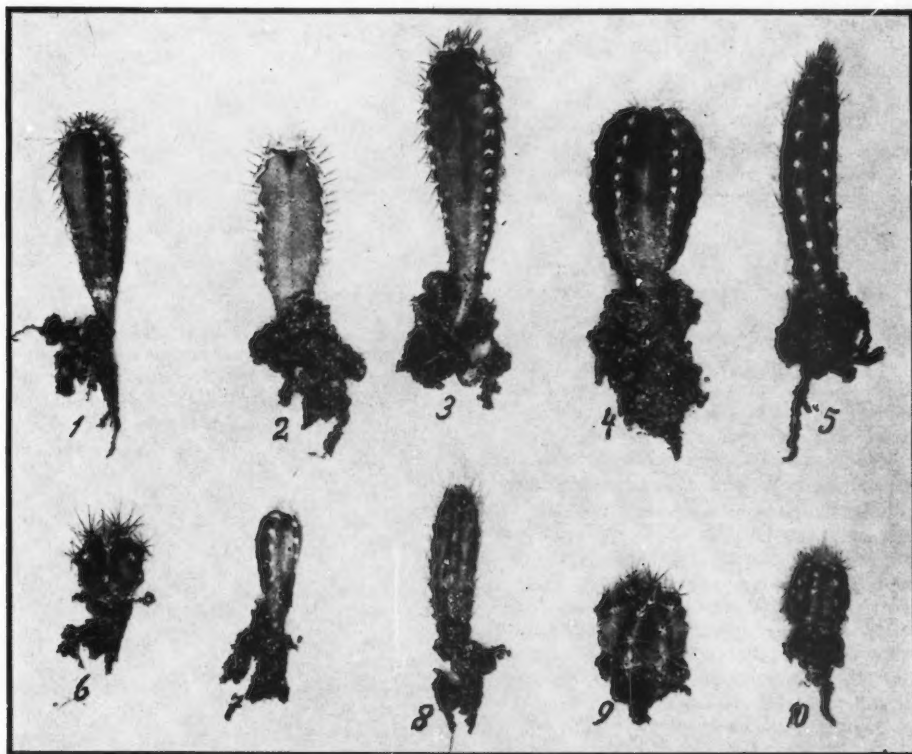
This species is found in Southern Brazil, Paraguay and Northern Argentina. When well grown this is a very showy plant and is a favorite in collections.

*Opuntia maldonadensis* Arechavaleta, from Punta Ballena, near Maldonado, Uruguay, is suspected of belonging in this series. I have a plant which may be *O. maldonadensis*. If it is, it does not belong in Series X.

I wish some Cactus friend in Uruguay would collect for me a joint or two, to settle the matter, as I do not know the type locality of the plant that I have.

From the description of *O. maldonadensis*, I am more inclined to think of it in connection with Series III. AURANTIACAE of the sub-genus PLATYOPUNTIA, in fact, quite near to *O. retrorsa*.

EDITOR'S NOTE: Many have enquired why Dr. Houghton's condensed review of "The Cactaceae" was discontinued. Between trips East, writing books, conducting classes in horticulture and enlarging his stock of plants our President Emeritus has been a very busy correspondent. This article, of his series, has been delayed for photographs which are difficult to obtain. The Editor or Dr. Houghton will appreciate any photos on *Opuntias* and due credit will be given in future articles.



Cactus Seedlings With Well-developed Root Systems.

1. *Cereus paraguayensis*
2. *Cereus validus*
3. *Cereus dayami*
4. *Lemaireocereus dumortieri*

5. *Harrisia regelii*
6. *Echinopsis valida*
7. *Cephalocereus arrabidae*
8. *Cleistocactus aureispinus*

9. *Echinopsis rhodotricha*
10. *Trichocereus lamprochlorus*

## THE CACTACEAN'S PRIMER

### Raising Cacti From Seed

By JACOLYN MANNING, M.D.

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NOTE: By Editorial request the series on Classification of Cacti is interrupted to give space to a seasonal article on Sowing Cactus Seed. J. M.

The easiest way to grow cacti is to raise them from seed. "It is a delight to see how they come out of the earth, to get acquainted with their first youth, to note with surprise their varying tribal characteristics, and to classify them by familiar acquaintance as well as by book." James West once said, "You cannot exceed a cactus for character." The baby cactus is as absolutely itself

as the copper colored papoose, the slant-eyed son of the Orient, or Colonel Lindbergh's baby.

Cactus seedlings possess many endearing charms to engage our affections. They are chubby, they are delicately colored, they are wholly dependent on our god-head for their continued existence: yet they quickly shrug off their tiny seed-leaves, don their absurd armature of bristles, and prepare for life's battles as their forefathers did.

Cacti of the desert bloom and seed freely, but arid conditions and the hungry small deer of the

desert floor prevent the growth of more than a decimal percentage of seed.

This is our opportunity to become true conservators of the desert plant life of The Americas. We may collect the ripening seed before it falls. We may purchase seed of those brave men who adventure their lives in waterless wastes, and scale unknown cordilleras to bring beauty to our garden patch. We may buy cactus seed from commercial growers in Germany and the Italian Riviera.

Authorities agree that late April is the most desirable month in the North Hemisphere to start cactus seed. Mild temperatures favor free germination, and oncoming heats of summer induce rapid growth. A sunny East, or preferably South window, provides warmth and lighting for seed pans. The advent of the little savages makes an exciting addition to the sun porch. In the North Temperate zone protection of house or greenhouse is essential; in the South and Southwest of the U. S. of America it is possible to carry on the whole operation in the lath house, or under the partial shade of a friendly tree.

With greenhouse facilities including bottom heat it is practical to sow cacti seed any month in the year. The more promptly ripened seed is sown, the faster the germination, and the greater the percentage of fertility. On receiving an invoice of rare seed out of season it might be well to sow a part, and reserve the balance until the more favorable season for growth.

Germination and growth are dependent on (a) Moisture, (b) Warmth, (c) Light, in order given.

#### THE SEED-SOIL

The cactus seed-pans in the propagating houses at Huntington Botanic Gardens, are filled with a mixture of equal amounts of coarse washed sand and ground sifted Holland peat. Amateur growers are cautioned to sterilize this mixture with steam or dry heat, or treat the seed with "Semesan," although not an absolute essential. Ackerman of the Inca Cactus Garden propagates cactus seed successfully in unglazed clay jars filled with "clean, fine, white, washed, river sand—*nothing but sand*," to quote the grower's own words; Ackerman, however, transplants cactus seedlings to a sandy loam as soon as they show the first set of spines.

#### "HOLLAND" PEAT

At least one California grower germinates cactus seed in Holland granulated peat, nothing else at all. What is this peat, so valuable in germination that it appears in most formulas for

seed-soil? It is a vegetable mould mined in peat bogs of North Germany. Ground and compressed into great bales, it is shipped to answer a demand by nursery men, because of its valuable qualities. It is medium brown in color, light in weight, and bulky. Pulverize it and put through a one-fourth inch mesh screen before using. You have thus secured a fine, sterile, moisture-retaining humus. Humus is a valuable plant food.

#### THE USE OF LIME

Since we have been told by an expert that cactus seedlings are inclined to "fall over," if soil is too light, and that a soil nicely adjusted to their needs will permit seedlings to thrive if left in the original flats, without transplanting, through the second winter, we have modified our formula for seed-soil, by adding a small amount of lime, and friable loam. Many members of the cactus tribe grow on limestone cliffs, or volcanic rock, and most of them show a preference for rocky ground. The addition of old mortar, ground limestone or slacked lime is usually recommended for the ground in which adult cactus are to be set. As even horticultural lime seems a rather strong diet for seedling cacti, although we know they need the right food to stand up and develop a good framework, we have experimented with the addition to our seed-soil, of finely powdered dried egg-shell. Egg-shell is a waste product which we put to use as food for our lime-loving garden children. We use only the shell of the egg, well dried and pulverized. It is lime, in such minute sub-division it passes through the cells of the secretory glands of a hen's oviduct, which forms the shell of the breakfast egg. This extreme comminution results in a plant food ready for assimilation by the baby plants of a lime-eating family. It may be omitted from the seed-soil.

#### CACTUS SEED SOIL (Modified)

Medium fine washed screened sand  
(not sea sand).....2 Parts  
Granular screened Holland peat.....2 Parts  
Friable garden loam, screened and baked  
(no clay).....1 Part  
Mix well and screen. Add to each 4 Quarts the following:  
Dried pulverized egg-shell.....1 Cup  
Powdered charcoal.....1 Cup  
Mix well and screen through ¼ inch wire mesh.

With this seed-soil the transplanting of the cactus seedlings may be deferred until they have made an adequate root system, and attained a size convenient for handling.

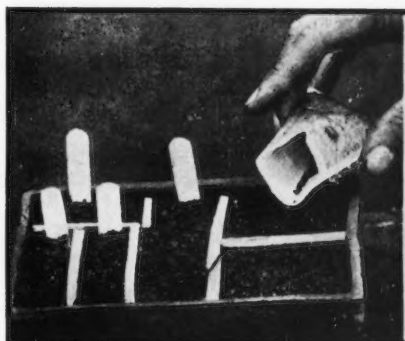


Photo Haage Erfurt

No. 1. Sowing the seed

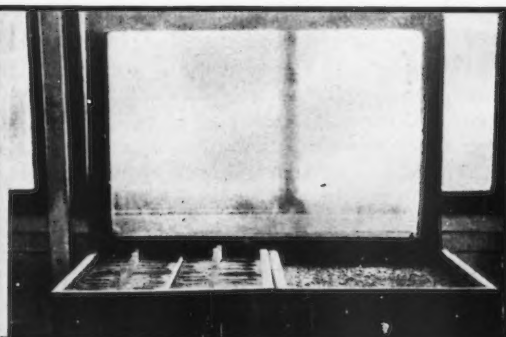


Photo by Berger

No. 2. Seed flats

#### THE SEED BOX OR CONTAINER

The containers used to sow cactus seed are varied; unglazed plant pots, fern dishes, well-drained tin cans, and custom-made tin boxes with perforated removable base, as well as the commercial nursery plant flat, are all practical. Whatever the form it must permit ample moisture and perfect drainage for the baby plants. In arid climates the unglazed pot dries out with such amazing completeness over a neglected week-end that we cannot recommend its use. When humidity drops to less than 10%, evaporation from the porous walls dehydrates the root and endangers the life of the seedlings; the several seedlings, near sides of pot, will be dwarfed in growth if they survive the ordeal. Porous clay pots plus human forgetfulness plus brilliant sunshine make a tricky combination for cactus seedlings.

In the propagating houses at Huntington Botanic Garden cactus seedlings are grown in commercial plant flats until large enough to transplant to the out-of-door nursery beds. We use a similar wood flat, made of new lumber, and given a complete coat of creosote. An easily assembled seed-table is shown in Photograph No. 2. The kitchen table is covered with discarded zinc. Two plant flats conform to the size of an old window sash, which can be propped open at any convenient angle. These flats are made of  $\frac{3}{4}$  inch Oregon pine, 18"x24"x4 $\frac{1}{2}$ ". As plant flats are heavy and awkward objects to move about it is well to proportion their size somewhat to the strength of the arms that handle them. Space the boards at the bottom  $\frac{1}{2}$  inch apart to leave room for drainage.

#### SEED SELECTION

In the matter of seed selection we speak only as one amateur to another. We may expend as

much thought, time, and effort growing seed of undistinguished wayside cactus, as if we had chosen seed of rare and lovely exotics, of intrinsic and increasing value. Any of the *Astrophytum*s, any of the feathered *Neomammillaria*s, are living plant jewels from babyhood; there are several groups of columnar cacti from Mexico and South America of diverse coloration and enchanting personality; the sub-tropical *opuntias* make fast growth from seed, and will begin to bloom and bear exotic fruits as early as citrus trees. Fertile seed of hundreds of attractive varieties may be obtained from reliable dealers: there is no duty on cactus seed imported from Germany and the prices there are surprisingly low, with an unlimited choice of varieties. The catalogue of a cactus seed dealer is always instructive and extremely interesting.

#### PREPARATION OF SEED-BED

The plant flat of new lumber has been coated inside and out with creosote and allowed to dry; if other containers are to be used they have been cleaned and sterilized to prevent growth of fungi, and have ample drainage spaces.

Place a layer about one inch deep of coarse gravel, crushed rock, broken pot sherds, or lump charcoal in the floor of seed-box to complete drainage facilities. Cover with a layer of bog moss to keep the sand from washing down. Fill the container to within one inch of the top with the prepared seed soil, and tamp it down lightly. Pack the corners, level the surface, and tamp again lightly. Sprinkle with water until well soaked and let stand overnight.

#### SOWING THE CACTUS SEED

We assume the seed-box is placed on bench or table in ample sunshine where it is to remain during germination. On a second table or tray

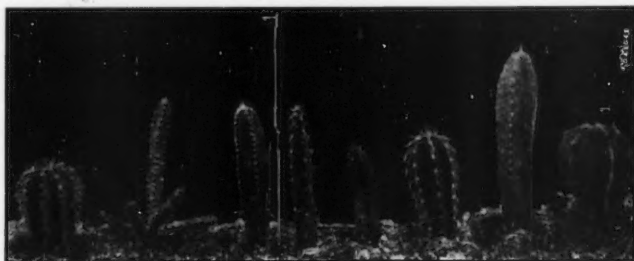


have ready the seed packets placed apart, each with its written and numbered label. (Small wood labels may be purchased for 10 cents per hundred from seed stores.) Divide the flat into halves or thirds with slender wood strips (lath); press these strips firmly down until upper surface is level with surface of seed-bed. Beginning at the upper left hand corner, fence off the first seed space with a strip of glass, zinc, or wood, and run the first label into the earth against this

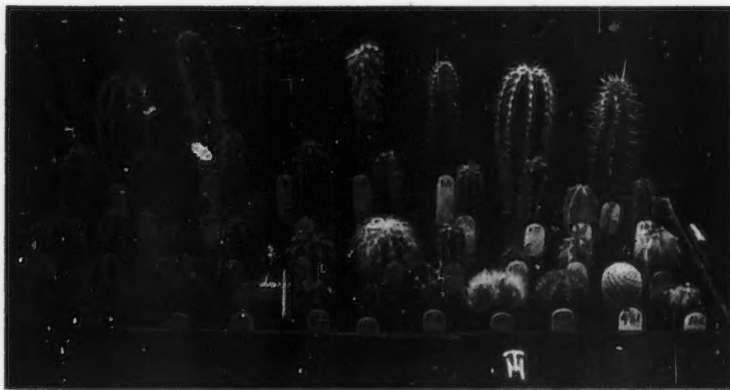
for a check list. Sift fine sand over your seed-bed to cover all seed. Adjust the glass cover, and supplicate the pagan gods.

#### THE GLASS COVER

The glass cover which is necessary to conserve warmth and moisture, will act like a burning glass in direct sunlight; sunshine should be somewhat diffused. If using a pane of glass on a single plant pot, smoke one side lightly. The glass sash can be covered with cheesecloth, or a



No. 4. Window box of attractive seedling cacti



A fine collection grown from seed in five years.

strip. Drop on the enclosed space seed corresponding to the label; sow the seed directly from its envelope as shown in Photograph No. 1. Place the second little fence, and label, and sow the seed, but do not cover it. Continue this process until all the seed is sown, and safely labeled, and make a numbered notation in garden book

lath shade. If the seed flats are to stand out of doors, tack wire window screen over the top, before placing the glass, to exclude slugs, snails and birds when sash is lifted. Most authorities advise glass should be slightly elevated at all times to admit a continual supply of fresh air. A match will give sufficient elevation until germination is

completed, if placed between glass and container. Lift glass each morning and wipe free of condensed moisture.

#### WATERING CACTUS SEEDLINGS

The ideal water supply for cactus seedlings is by capillary attraction upward. Plant pots can be set in basins in which water is maintained during germination. We have a galvanized iron tray with high sides in which we put the seedling flats when they go out doors for the summer; in this we keep sufficient water so the little plants are never dry. The seed-bed must *never be dry* while cactus seed are germinating. It is sure death to them—"Tod" the German specialists say. They are so delicate when they first show

life they must have moisture, applied without disturbing their minute roots which are seeking anchorage in the soil. If water must be applied from above, use warm water, always, in the form of a fine spray.

#### ARTIFICIAL HEAT

Artificial heat, applied as bottom heat, stimulates a faster growth; a low powered electric bulb will raise temperature of seed bed several degrees at trifling expense. If the nights and mornings are chilly the faithful hot water bag can come in service at those periods. Extra heat is not demanded for spring sown seed. With fertile seed and the right conditions of soil and water most of the seedlings will appear in the second, third and fourth week after sowing.

#### Secretary's Notes

The April meeting of the Society will be held at Palm Springs on Sunday, April 26th. This is the first of our outdoor meetings for the year and promises to be one of the most interesting. Complete details will be announced later.

Following is a tentative Premium List for the show which is to be held at the Edward H. Rust Nurseries, 352 Glenarm Street, Pasadena, California, on May 22nd, 23rd, and 24th. You will notice that there are a great many classes, so study over the list and decide now to enter your plants. Entry forms can be obtained by address-

ing the Secretary, W. M. Ketteringham, 610 W. 65th St., Los Angeles.

The March meeting of the Society was held Friday evening, March 20th, at the Pasadena Public Library. Dr. Elbert Benjamine, Vice-President of the Nature Club of Southern California, gave a very interesting illustrated lecture on "Desert Wild Flowers." Mr. H. H. Haworth, of the Visual Educational Department of the Pasadena Public Schools, took us on a personally conducted tour of the "Desert in Springtime" by means of beautifully colored slides.

*Plan now for your exhibit in the Show.*

#### TENTATIVE PREMIUM LIST 1931

- A1 Sweepstakes: Judged by the combined judges. One prize only.
- A2 Best Staged Collection: Large or small—arranged for effect either in containers or planted out. Rocks, etc., permitted. 1st, 2nd, 3rd.
- A3 Best Rarest Cactus Shown. 1st, 2nd, 3rd.
- A4 Best Rarest Succulents Shown. 1st, 2nd, 3rd.
- A5 Best Collection of Different Cacti. 1st, 2nd, 3rd.
- A6 Best Collection of Different Succulents. 1st, 2nd, 3rd.
- A7 Best Collection of Grafted Plants. 1st, 2nd, 3rd.
- A8 Best Collection of Different Cristates and Monstrosas. 1st, 2nd, 3rd.
- A9 Best Collection of Freaks: Unusual growths other than crests and monstrosities. 1st, 2nd, 3rd.
- A10 Best Exhibit from a Distance: More than 200 and less than 700 miles from L. A. 1st, 2nd, 3rd.
- A11 Best Exhibit from a Distance: More than 700 miles from Los Angeles. 1st, 2nd, 3rd.
- A12 Best Collection of Cacti and Succulents: Entered by Juniors under 18, 1st, 2nd, 3rd.
- A13 Best Collection of Cacti and Succulents: Entered by a Garden Club or Community. 1st, 2nd, 3rd.
- A14 Best Collection of Seedlings: Cactus or succulents. 1st, 2nd, 3rd.
- A15 Best School Exhibit. 1st, 2nd, 3rd.
- B1 Best Collection of Pereskias and Pereskioopsis. 1st, 2nd, 3rd.
- B2 Best Collection of Opuntias. 1st, 2nd, 3rd.

- B3 Best Collection of Epiphyllums. 1st, 2nd, 3rd.  
 B4 Best Collection of Columnar Cereanae: This includes Cereus, Cephalocereus, Trichocereus, etc. See Vol. II, Pages 1 and 2, B. & R. 1st, 2nd, 3rd.  
 B5 Best Collection of Hylocereanae: This includes the vine-like, climbing, trailing or pendant cacti. See page 183, B. & R. 1st, 2nd, 3rd.  
 B6 Best Collection of Echinocereanae: This includes Echinocereus and Echinopsis, etc. See Vol. III, page 3, B. & R. 1st, 2nd, 3rd.  
 B7 Best Collection of Echinocactanae: This includes Ferocactus, Echinocactus, Astrophytum, etc. See Vol. III, page 77, B. & R. 1st, 2nd, 3rd.  
 B8 Best Collection of Coryphanthanae: This includes Coryphantha, Neomammillaria, etc. See Vol. IV, page 3, B. & R. 1st, 2nd, 3rd.  
 B9 Best Collection of Rhipsalidanae: This includes Rhipsalis, etc. See Vol. IV, page 208, B. & R. 1st, 2nd, 3rd.  
 B10 Best Specimen of Zygocactus or Schlumbergera. 1st, 2nd, 3rd.  
 B11-100 Best Individual Cactus Plant of Any Genus: Entries under this classification must be show standard to win. 1st, 2nd, 3rd. You may enter here any cactus plant that you think is worthy of special attention.  
 C1 Best Collection of Euphorbias. 1st, 2nd, 3rd.  
 C2 Best Collection of Mesembryanthemoids. 1st, 2nd, 3rd.  
 C3 Best Collection of Echeverias: Including Dudleya, Stylophyllum, etc. 1st, 2nd, 3rd.  
 C4 Best Collection of Aloes. 1st, 2nd, 3rd.  
 C5 Best Collection of Haworthias, Gasterias and Apricas. 1st, 2nd, 3rd.  
 C6 Best Collection of Sedums. 1st, 2nd, 3rd.  
 C7 Best Collection of Sempervivum. 1st, 2nd, 3rd.  
 C8 Best Collection of Crassula. 1st, 2nd, 3rd.  
 C9 Best Collection of Agaves. 1st, 2nd, 3rd.  
 C10 Best Collection of Stapelias. 1st, 2nd, 3rd.  
 C11-20 Best Collection of Any Other Genus of Succulents. 1st, 2nd, 3rd.  
 C21-100 Best Individual Succulent Plant of Any Genus: Entries under this classification must be show standard to win. 1st, 2nd, 3rd. You may enter here any succulent plant other than cactus that you think is worthy of special attention.  
 D1 Best Collection of Xerophytes: In fancy containers. 1st, 2nd, 3rd.  
 D2 Best Comedy Layout: Must show horticultural skill. 1st, 2nd, 3rd.  
 D3 Best Miniature Cactus and Succulent Landscape: Must be under 6 square feet. Applicable to desert conditions. 1st, 2nd, 3rd.  
 D4 Best Miniature Cactus and Succulent Landscape: Over 6 square feet. Applicable to desert conditions. 1st, 2nd, 3rd.  
 D7 Best Xerophyte Table Garden. 1st, 2nd.  
 D8 Best Landscape Garden. 1st, 2nd, 3rd.  
 D9 Best Display of Methods of Propagation of Cacti and Succulents. 1st, 2nd, 3rd.  
 D10 Best Exhibit of Cactus Growing and Handling Aids: Special tools, etc. 1st, 2nd, 3rd.  
 E1 Best Strawberry Jar: Succulents predominating. 1st, 2nd, 3rd.  
 F1 Best Collection of Insect Pests and Parasites, Inimical Moulds and Fungo. 1st, 2nd.  
 G1 Best Collection of Pictures of Cacti and Succulents: May be either or both. 1st, 2nd, 3rd.  
 H1 Exhibit of Cactus Fruit. 1st.  
 J1 Exhibit of Cactus Fruit. 1st.  
 J2 Educational Exhibits.

A most interesting, beautifully illustrated, full page article on "*Echeveria weinbergerii*" appeared in the Los Angeles Times Rotogravure Section on March 8th. Almost rigidly scientific while the captions were as interesting as any fairy tale. It is my idea that botany presented in this way, would be a subject of vivid and vital interest—not only to the growing child but to us

grown-ups. The photography was by George Elwood.

E. D. H.

ERRATUM. In the February, 1931, number of the Cactus JOURNAL, "Outline of Familiar Cacti" Page 406, paragraph No. 34, *Cleistocactus*, we mistakenly quoted from our notes. The crest seen in company with *Cleistocactus baumannii* on a rise of ground in Huntington Cactus Garden is *Nyctocereus serpentinus cristata*.  
 J. M.



## EUPHORBIA TIRUCALLI vs. E. LARO

By G. A. FRICK

Perhaps it is assuming more than I am able to prove to accuse the United States Department of Agriculture of being mistaken in their nomenclature, but that is the exact position I find myself in after reading the letter from that government department published in the February number of the JOURNAL, page 415, where they show an illustration of a tree of *E. tirucalli* and name it *E. laro*.

I am not a botanist, just an amateur fancier of xerophytes, therefore subject to mistakes and criticisms, and not very hard to convince if wrong, but it must be proven to me that *Euphorbia laro* (Drake) is not *Euphorbia tirucalli* (Linn.) before I accept the former as anything other than a synonym of the latter. I have been unable to find proof of this in any of the available works on Euphorbia.

A recent occurrence has strengthened this belief to the point of certainty when Mr. Orpet received three plants from the U. S. Department of Agriculture at Washington, labeled *E. laro* which certainly are not noticeably different in any respect from *E. tirucalli*, and are no doubt, cuttings brought back from Madagascar by the Humbert-Swingle expedition; Drake's type location of *E. laro* is given as Madagascar, and perhaps it is this that contributed to the confusion.

In the Bulletin of 1899, page 307, Museum of Natural History, Paris, is the only published description of *E. laro* by Drake. In the year 1906 many cuttings were made of the original plant of this species growing in the Jardin des Plantes in Paris, yet today there are no available plants of *E. laro* in France, and they are said to be fairly hardy. One of the largest dealers in Succulents in that country writes that he has never known the plant, but he lists *E. tirucalli* in his catalogue at a ridiculously low figure.

Cuttings sent the writer from the United States Acclimatization Garden at Torrey Pines in San Diego County, of both *E. laro* and *E. tirucalli* proved to be the same plant, unless the difference is in the flower which was not seen.

*E. tirucalli* (Linn.) is a native of Tropical Africa but the plant's conquest of the world is about complete. It is said the Portuguese who in the early days were great seamen, introduced it from Portuguese East Africa to the many countries where it is now grown so plentifully in hedges, and worked for its rubber content.

During the British rubber market control six



Photo by Author  
*Euphorbia tirucalli*, 10 feet high, growing in the author's yard in California.

years ago, it was the plan of Henry Ford and Harvey Firestone to cultivate and work *E. tirucalli* extensively for a suitable rubber to break the English monopoly on the world's supply, but owing to the sudden loosening of the British grip on Para rubber, and partly due to the low percentage of rubber in *E. tirucalli*, the idea was abandoned before production was fairly started; with the result that acres upon acres growing in the East Indies are idle today, and the superior and cheaper product from rubber trees supplies the world, although in Natal the plant is still being worked for rubber.

From time to time California newspapers have published reports of experiments made by the State Forestry Department with *E. tirucalli* as a noninflammable vegetative cover for firebreaks in the mountains of the State.

The experiment station of the Forest Service

of the U. S. Department of Agriculture at Berkeley, California, is today endeavoring to secure cuttings for their investigation along these same lines; but what seems like the best move made so far in the right direction, is the work done by the Henninger Flats Nurseries under the direction of the Los Angeles Fire Warden. They have adopted with remarkable success, a noncombustible succulent *Mesembryanthemum repens* for this purpose; through its spreading habit it covers the ground so completely that it excludes all herbaceous and grass growth, as well

as the shrubs of the chaparral. Another important factor in favor of the *Mesembryanthemum* is its low mat-like growth, which allows the free movement of fire-fighting crews in time of fire, while *E. tirucalli* attaining tree size would greatly impede their movements. As the *Mesembryanthemum* creeps along the ground, it strikes root as it travels, which is a good quality in its favor, for this prevents erosion, a requisite of first importance. The roots need only a thin layer of soil and do very well without irrigation, which is the reverse with *E. tirucalli*.

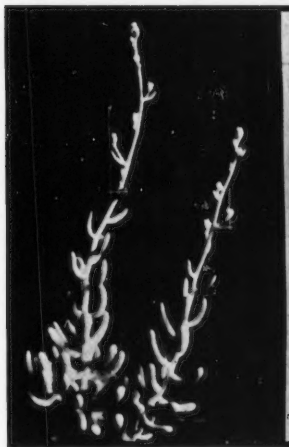


Photo by Count Knuth

*Grusonia Bradtiana* Br.&R., as it grows in the Sierra de la Paila, Coahuila. The glass-like spines are very stiff, and make the low thickets formed by the plant, absolutely impenetrable. Motorists in these regions

should be very careful in avoiding this cactus, for if a tire touches one of the densely spined branches the result will immediately be a flat!

COUNT KNUTH.



From Garden of Mrs. Sheldon, San Francisco Photo by Author

No. 1. *Sedum allantoides* Rose.No. 2. *Sedum confusum* Hemsley.

Photo by Author

No. 3. *Sedum treleasei* Rose.

## NOTES ON SEDUM

By ERIC WALTHER

*Sedum guatemalense* Hemsley, the subject of our present illustrations,\* is probably known to most local succulent-growers, at least by sight, even if so far not by name. Owing to the rarity with which it produces flowers its identity was the subject of many guesses, some of them quite wide of the mark. As detached single leaves will readily take root and reproduce the plant, it has become rather widely distributed in a short time. Its ability to thrive in even the drier parts of our State, coupled with the friendly green of its leaves, often assuming brilliant red tints in exposed situations, and its neat, restrained habit combine to make it deservedly popular and a most useful addition to the inhabitants of our rock-gardens.

The keen eyes of our friend, Orpet, were the first to note its flowers on a recent visit of his to the interesting collection of our fellow-member Mrs. Scannavino at Los Gatos. The latter very kindly transmitted specimens to us, making possible its final determination. Except for the longer alternate leaves and absence of down the species bears a close resemblance to *S. stablii* Solms, and should probably be added to Berger's Series 12:STAHLIANA. Both species agree in their thick, terete, obtuse, readily detached leaves, while their yellow petals have the identical, subapical, mucro. Neither Berger nor Praeger make any

mention of *S. guatemalense*, but Britton and Rose more than make up for this neglect by seemingly listing the same plant under two different names.

On pages 65 and 67, respectively, of the North American Flora, 22:1, *S. guatemalense* Hemsley and *S. australe* Rose are described in almost identical words, a fact hinting at the very close affinity of the two species. It should be remembered that Hemsley's original description was most likely based on dried material, so notoriously unsatisfactory when dealing with succulent subjects, due to the inevitable shrivelling that follows drying. In view of these considerations we feel inclined to use the older, prior name of Hemsley; and for the benefit of such of our readers as may wish to form their own opinion we give the following free translation of Hemsley's description in "*Biologia Centrali-Americana*," this being more ample than his original one.

*Sedum guatemalense* Hemsley, Diag. Pl. Nov. 1:11; 1878;

*S. guatemalense* Hemsley, Biol. Cent.-Am., 1:395; 1888;

*S. guatemalense* Rose, North Am. Flora, 22:1:65; 1905;

*S. australe* Rose, Bull. New York Bot. Gard., 3:41; 1903;

*S. australe* Rose, North Am. Flora. 22:1:67; 1905.

Glabrous subshrub with slender, terete, diffusely procumbent branches, the flowering shoots erect and to 30 cm. tall. Leaves few (?), alternate, subfleshy

\*Photos No. 4 and 5.

(?), linear-oblong, obtuse, 12 to 15 mm. long, 3 mm. thick. Flowers reddish (when dry ?), in lax (?), terminal cymes; pedicels to 9 mm. long; sepals fleshy, linear, obtuse, nearly as long as petals (?); corolla to 12 mm. in diameter; petals ovate-lanceolate, mucronulate; stamens 10, their filaments filiform, shorter than the petals; scales fleshy, clavate, over 3 mm. long; carpels 5, many-seeded; seeds linear, appendiculate at both ends.

Guatemala; on summit above Caldera at altitude of 8,000 feet, growing on dead stumps. (Salvin & Godman No. 78, Herb. Kew.)

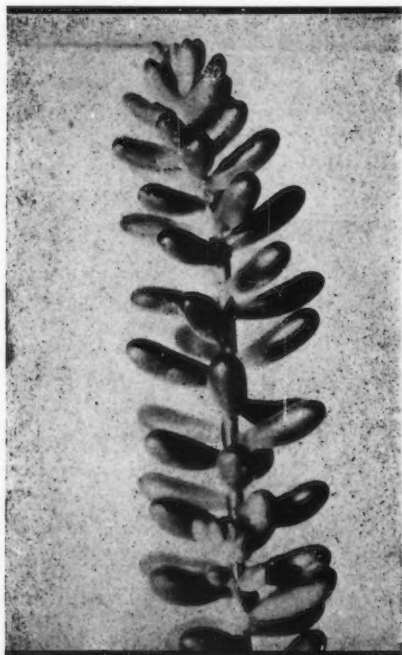
The queries in parentheses are the writer's and indicate discrepancies between our material and Hemsley's description. All of these are such as may be due to the state of the dried specimens, and none of them are serious.

In Berger's treatment of the genus *Sedum*, recently reviewed in these columns, one would look for the species here discussed, if not near *S. stablii*, then in Berger's Section *Pachysedum*, the members of which are characterized by similar thick, terete leaves. As now constituted, this Section does not appear to be a very natural one, including as it does some rather heterogenous elements. No doubt the species there grouped together agree in superficial, vegetative characters; and some are indeed closely related, as evi-



From Garden of Mrs. Scannavino, Saratoga

No. 5. *Sedum guatemalense* Hemsley, flowering shoot.



From Garden of Mrs. Scannavino, Saratoga Photo by Author

No. 4. *Sedum guatemalense* Hemsley, sterile shoot.

denced by their lateral inflorescences. This last character, found also in Berger's Section *Dendrosedum*, is so anomalous in a genus with almost exclusively terminal flowers that in our humble opinion it seems to furnish a better excuse for creation of a Section than mere leaf-shape and habit. We take the liberty of briefly characterizing the Section below, keying the species which would come into it that are grown here, and suggest the name *Bergerosedum* for this Section.

To the species included in the key may have to be added *Sedum aoikon* Ulbrich, *S. botteri* Hemsley and *S. purpusi* Rose, none of which is known in cultivation locally. *S. allantoides* Rose, though, placed here by Berger, clearly belongs elsewhere, which would seem to apply also to *SEDUM (Corynephyllum) VIRIDE* (Rose) Berger

and *SEDUM* (*Cremnophila*) *NUTANS* (Rose) Berger. As intimated by Berger, etc., the last-mentioned species, both in its habit and inflorescence, so much resembles the well-known *Echeveria linguaefolia* Lemaire as to hint at

more than a passing resemblance; and possibly the transition between *Echeveria* and the more primitive genus *Sedum* may be sought in this vicinity. Cytological evidence bearing on this theory would be most interesting.

#### SEDUM Section BERGEROSEDUM (New Section).

Characters of the Section: Subshrubs, with central axis indeterminate; inflorescence lateral, axillary; flowers white or yellow, with free, spreading petals. (Type *S. DENDROIDEUM* Moc. & Sesse.)

##### Key to the Species Grown Here:

- A. Flowers white.
  - B. Leaves strongly convex on back, gray-green; petals ovate-lanceolate . . . . . *S. adolphi* Hamet.
  - BB. Leaves more flattened on back, yellow-green tinged red; petals linear-lanceolate . . . . . *S. nussbaumerianum* Bitter.
- AA. Flowers yellow.
  - B. Leaves quite terete . . . . . *S. pachyphyllum* Rose.
  - BB. Leaves more or less flattened, at least above.
    - C. Leaves glaucous-gray, rather thick, nearly as thick as broad . . . . . *S. treleasei* Rose.
    - CC. Leaves thinner, usually green (Berger's Section *Dendrosedum*).
      - D. Leaves thin, yellow-green and somewhat glaucous, often tinged red; plants low, less than 25 cm. tall.
        - E. Leaves acute, to more than twice as long as wide . . . . . *S. compressum* Rose.
        - EE. Leaves obtuse, less than twice as long as broad . . . . . *S. palmeri* S. Wats.
      - DD. Leaves stout, bright green, not glaucous, plants often taller.
        - E. Leaves 25 mm. long or less; plant less than 30 cm. tall; inflorescence compact . . . . . *S. confusum* Hemsl.
      - EE. Leaves longer; plants taller; inflorescence lax.
        - F. Leaves broad, the orbicular blade narrowed into a distinct petiole below; inflorescence much branched . . . . . *S. dendroideum* Moc & Sess.
        - FF. Leaves narrower, acutish, with the oblong-lanceolate blade long-cuneate below; inflorescence more sparingly branched . . . . . *S. praealtum* DC.

## "THERE'S MILLIONS IN IT"

By NED LAWRENCE

Comes now the Literary Digest to tell us some things about Cactus which we didn't know. I quote from the issue of January 31, viz:

"Once a nuisance, the Cactus has become man's servant. In Arizona its cultivation employs over a million acres. One visualizes the future southwestern desert as a succession of profitable cactus ranches."

If there are one million acres in the state of Arizona devoted to the cultivation of cactus for commercial purposes, then I dare say that Nevada has about two million acres, California at least four million, New Mexico about eight million, and Texas fully sixteen million acres under such cultivation—a grand total of 31,000,000 acres.

Let's make this a good story while about it!

It will be grand stuff to put in the prospectus of the Southwestern Cactus-ranch Association, and all such corporations organized to sell stock to gullible easterners at, say "\$10 per 1000 shares, ground-floor price—next block at \$50 per 1000 shares—come in now and make all the profits."

Don't think for a moment that these pretty paragraphs in so reputable a journal as the Literary Digest of New York will pass unnoticed by the keen-witted gentry who make their living by promoting stock-jobbing schemes in anything which the credulous public can be induced to buy, from gold-mining to oil, and eucalyptus timber to cactus juice.

After the stock is sold and the suckers are shaken down, if some outraged victim of the swindle should invoke the U. S. postal authorities to prosecute the

promoters for fraudulent advertising, the rascals may hide behind the pages of the Literary Digest with the plausible excuse: "Why, we didn't say a million acres were under cultivation—we didn't know—but the Digest said it and we took their word for it."

This article in the Digest to which we take exception goes on to laud the merits of a cactus-juice boiler-compound quite after the manner of paid publicity. All that is lacking is the little coupon in the corner of the page to be clipped off and mailed with a remittance for a block of stock in this manufacturing enterprise.

Far be it from us to deny the merits of any boiler compound, whether trademarked Cactizona, Cactifornia, Cactimex or Cactitex. We have nothing to do with that side of the case. What we do derogate is the promulgation of egregious misstatements like that above, of a million (or a thousand, or even a hundred) acres being UNDER CULTIVATION for raising cactus.

Truth is, as well we all know, that the desert is teeming with uncultivated cactus, and as long as no protection is afforded or trespassing prevented, it is continually ravaged by thieves who aim to make something out of what costs them nothing.

But to cultivate cactus, that is another matter. It would require as much irrigation to make cactus flourish as it would to raise alfalfa (as the Department of Agriculture acknowledged after experimentation) and then one would have something worth less than it cost to raise.

\* \* \*

Get Your Friends to subscribe to  
The Journal of the  
Cactus and Succulent Society



## OPUNTIA GOSSELINIANA, Weber

By E. M. BAXTER

Recently several persons have shown me plants labeled *Opuntia gosseliniana* that have been everything else except this species. Having seen this plant in its native locality, a little information about it may be welcome.



Photo by Author

*Opuntia gosseliniana*

*Opuntia gosseliniana* resembles *Opuntia monacantha* (*Opuntia vulgaris*) in several details. It has very thin stems, long and with an irregular margin, and one or two long slender spines at an areole. It has few or no glochids, and the areoles are spaced the same as in *Opuntia monacantha*.

The plants we saw were growing well up in the mountains near Todos Santos, in small canyons whose soil was largely decomposed granite and leaf mold. They were small, spreading plants, growing seldom higher than two feet. The photograph shows an exceptionally large plant. The side of the stem towards the sun was deep maroon color, the other side a bright green.

Both sides are smooth and hard. An insect burrowing just under the surface of a number of the stems gave them a striking resemblance to the variegated form of *Opuntia monacantha*.

The occurrence of spines is quite variable. On some plants the whole stem is heavily armed, every areole bearing a full complement of spines. On others only the upper few are spine-bearing, and on these areoles only one spine grows. Some of the few-spined plants have the spines reflexed tightly against the stem. Ordinarily the spines stand straight out, and of the many-spined plants I did not see any with reflexed spines.

The flower is a pretty, bright yellow. The petals are numerous and large, the whole flower measuring at least three inches across. The fruit is oval, with a depression at the flowering end. It is eaten by the natives. The fruit is not prolific and is quite fertile, quite different from that of *Opuntia monacantha*.

*Opuntia gosseliniana* belongs to the Series *Phaeacanthae*, which is distinguished by its brown subulate spines. The species nearest to it are *Opuntia macrocentra*, with which we are familiar, and *Opuntia azurea*. It has little in common with these in physical appearance, except the tendency to bear its spines at the top of its stems.

Except for its large flowers the plant has little to recommend itself to anyone but the collector.

### A CORRECTION

Apologies are due to Mr. Brown for a mistake which occurred when preparing (under pressure the illustrations for his article in the December issue of the JOURNAL (Vol. II, p. 372).

The plant there illustrated is not *Glottiphyllum neilii*, but some other species as yet unidentified by me. It came to me under that name, and not having seen the species before, its peculiar leaf-color, which might be described as whitish-yellow-green turning bronze in exposure, misled me into thinking it correctly named.

However, I hope presently to be able to show the early stages of the true species in these pages, as I have a good batch of young plants, grown from seed collected by the mother of Neil van der Bijl, for whom the plant was named, hence undoubtedly authentic.

JAMES WEST

## AFRICAN GEMS

By E. O. ORPET

People are asking why it is that so many new plants, especially the beautiful and curious little plants from Africa, are being discovered. If the present interest in cactus and other succulents does nothing else than enable us to discover—as fast as they are available from seeds—these plants that we are getting to know a few at a time, this phase of culture will endure and give the greatest pleasure to those who are fortunate enough to possess at least a few plants from among the many genera that were included in *Mesembrianthemum* until very recently.

Were it not for this current interest, most of the species would remain dried in herbaria after having been named, and horticulture would never know them.

Of the very many tried here, we have yet to come to a species that failed to thrive. Some of them, as Mr. West tells us, are found to be temperamental. *Fenestraria rhopalophylla* may be taken as an example:

"Baby Toes," growing in a dense cluster, sometimes begins to rot at the center. Where heavy rains prevail, or with indoor culture, it is necessary to raise the base of the plant by putting a few rocks around close to the bottom of the plant. The same method is good with *Pleiospilos*, *Punctillaria*, *Argeta*, *Cbeiridopsis*, and especially with *Juttadinteria*, *Trichodiadema*, *Schwantesia*, and *Titanopsis*, as these are densely clustered growths.

All of these are deep rooting, so if grown in pots it is well to remember that they will go deep for moisture.

We are particularly fortunate here in that outdoor cultivation is possible, in fact, is preferable. Last summer we risked a plant of each kind out in the hottest position in the full sun, and every one of them thrived. Many species flowered and are continuing to do so through the winter, showing many beautiful colors. We have not risked any of the "Rock Faces" outside yet, but feel sure that when large enough the *Lithops* will be as amenable as any of the others.

A collection of these creates more interest than all the other genera combined, especially when surrounded with pebbles to show off their mimicry. Some of the *Lithops* are flowering when only a year old from the time of sowing of the seeds, others are much slower.

If indoor culture must be given, use the sunniest window available. Shade in any form seems to be inimical; in California even that of a lath-house is harmful.

The greatest trouble we have is in obtaining the seeds. The best species seem to come from

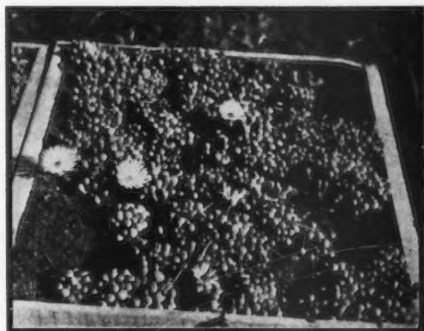


Photo by Author

*Fenestraria rhopalophylla*

South-west Africa now. Collectors are careful to send us the seeds in their capsules, and these open up when placed in a saucer of water and we can obtain the tiny seeds. We are now able to save seeds from cultivated plants and get germination. Hand pollination is done, and in this way we have *Lithops* bearing seeds. Germination is quick and we get a surprising lot of plants, sometimes, from the microscopic seeds that have to be sown with a whole lot of faith at the time.

We are told by an authority from Cape Town that our success is even better than theirs there, so perhaps a word as to sowing may help others as it is the same method used with Cacti such as the *Mammillarias* (*Neomammillaria*, *Coryphantha*, etc. Br. & Rose). The seed bed, preferably in a shallow NEW wooden box, is composed of imported peat with one-third coarse sand added. With this soil reasonably moist and carefully leveled, sow the seeds and cover them with a thin layer of sand. Then moisten with a fine spray, cover with glass and put in a warm sunny house. If pots or pans (florist's) are used they should be new, or if old, well sterilized to avoid damping off fungus.

## That Difficult Name!

By BOYD L. SLOANE

It is said that a rose with any other name would smell just as sweet and, perhaps, a cactus by any other name would contain just as many spines. But many beginners wish that most cacti had other names.

Why do they have such terrible names? and whoever gave them such names? are among the questions most often asked by visitors who come to see the writer's small collection. Being a beginner myself and never having taken any particular interest in the names or their origin, I was unable to answer the queries. However, I decided to investigate a bit and what I offer here is simply the attempt of one beginner to help another.

In a study of Systematic Botany there are four great divisions: (1) Identification, or the critical discernment of the kinds of plants; (2) phytography, the art of diagnosis and description; (3) onomy, or the science of names; (4) taxonomy, the science of the classification of the kinds of plants. Thus we see that the subject which causes us difficulty is really a science.

Previous to the early part of the eighteenth century many plants were named by descriptive phrases. In a similar manner phrases are used by the American Indian. Those who saw the Death Valley pictures shown at the January meeting will recall that it was through the courtesy of The Little Grasshopper, a name given to Mr. M. Moore by the Indians because of his small stature and quick movements.

However, in 1707 there was born in Sweden a man whose efforts to systematize the study of botany are felt today. Karl von Linnaeus was the greatest botanist of his age. He arranged plants on a simple system of sexual relationship and prepared the way for a more natural and satisfactory classification which has since developed.

Plants are named according to a system of binomial nomenclature. That is, they have two names just as persons have two names. John Jones is a name which tells us that Jones is the family to which John belongs and John is the name which designates which one of the family is considered. In the plant name the order is reversed. The name which tells the family or genera comes first and the given name or name of the species comes last. Thus, in *Echinopsis multiplex*, *Echinopsis* is the family or genera, and *multiplex* tells which one of the family is considered. One weakness of this system of nomenclature is that plants cannot be shifted from one genera to another without changing the name. This is the reason why one plant may have a half dozen or more names. Whenever through extended study it is discovered that a plant belongs to another genera than the one in which it was originally placed, it is necessary to change the name to designate that it belongs to another genera. If plants could have but one name our literature would be simpler and there would be a greater popular usage of correct names.\*

But why are the names Latinized? Because at one time Latin was the official language of the scientific and professional world. Remnants of this practice remain today. Physicians' prescriptions are written in Latin. Some church services are in Latin. Plant descriptions are often printed in Latin. Then, too, a Latin word sometimes means as much as a phrase in English. I

must confess that, since becoming interested in cacti, I have wished for the knowledge of Greek and Latin spurned in earlier days.

In examining cactus names we find they have various origins. Some are named for persons. Others have their origin in the color, shape or habit of growth of the plant. Some are anagrams which are made by rearranging the letters of a name. Still others are named for the locations in which they are found. And there are many others. A few illustrations will suffice. The *Lemaireocereus* is a *Cereus* named for Mr. Charles Lemaire, a distinguished French cactologist and horticulturist. *Chrysacanthus* is made from the Latin *Chrys*, signifying yellow, and *acanthus*, signifying spine; hence, *chrysacanthus* literally means yellow spines. A *Cereus hexagonus* is a *Cereus* with six sides or ribs. *C. brasiliensis* was supposedly from Brazil. *Nyctocereus* is from the Greek, signifying night, relating to its habit of blooming during that portion of the day. *Hatoria* is an anagram from the name Hariot. A Latin-English dictionary procurable at any library will open the door to a much better appreciation of plant names.

Who may name plants and how do the names become official? Any person who discovers a new plant, one who originates a new species or one who first describes a new plant may name the plant. To become official, the complete description of the plant giving its name must be published in a recognized scientific journal. If two persons should discover specimens of the same plant and name them, the name given by the person who first published his description would become the recognized name. It is preferable that these descriptions be published in Latin, although I believe that this is no longer absolutely necessary. An interesting fact in this study is that those plant names ending in *iana* are named for the discoverer or the originator of the species. Plants whose specific names are Latinized by adding *ii* are named in honor of some person. Mr. Eric Walther who described the *Graptopetalum* discovered by Mr. Ed Howard, named it in honor of our Mr. E. O. Orpet, *G. orpetii*.

Just a brief study has made a difficult subject much easier and has opened up vistas of delight beyond. With a new understanding of names my plants stand out as individuals.

Any additional information to add to a beginner's knowledge of the subject will be appreciated.

### **Borzicactus straussii**

In connection with Dr. Britton's note on this species (p. 397 of this volume) it may be of interest that the fruit has been described and figured. The plant set fruit at the Berlin Botanical Garden and was described by the late Dr. Vaupel in M. f. *kakteenkunde* 1920 p. 160. A very good photograph of the plant in fruit by Camillo Schneider is reproduced in the same periodical Vol. XXXII, p. 9 (1922).

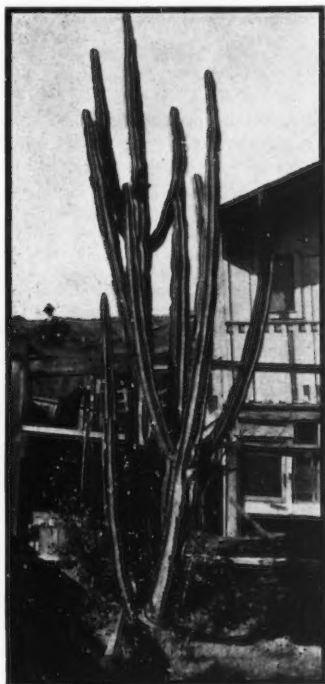
Berger in his *KAKTEEN* treats it under *Borzicactus*.  
JAMES WEST

WANTED: Volume I of "The Cactaceae," by Britton and Rose. The Society desires to complete the set for its library. Communicate with Boyd L. Sloane, President, 1421 Dominion Ave., Pasadena, Calif.

\*The common names, such as "Old Man," etc., are as inadequate as would be the exclusive use of nickname for a person.

## A CEREUS THAT LIKES SAN FRANCISCO

Believe it or not, this scene is within ear-shot of the Market Street traffic. As you see, even so urban a place as San Francisco is not devoid of all rural charms. Also, even Angelenos will have to admit, after viewing this picture, it is congenial to cacti, at least to this veteran *Cereus*, which has, without any human attention, let the sea-fogs blow around its venerable crown these fifteen years or more, flowering every season.



The plant is well over 25 feet tall, with about a dozen branches. Not being a cereologist, we leave it to someone better qualified to pronounce upon its species. Ribs 6, rather thin and high; areoles about  $3\frac{1}{2}$  cm. ( $1\frac{1}{2}$  inches) apart, circular, gray-felted; spines straight, rather slender, pungent, black, radiating evenly in all directions, centrals about 4, 10-15 mm. ( $\frac{1}{3}$  to  $\frac{1}{2}$  inch) long, radials about 8, 5-8 mm. ( $\frac{1}{4}$  inch) long; transverse furrows on ribs present, but not conspicuous; color dull green, that of young growth somewhat lighter, but hardly glaucous; flowers about 20 cm. long, of usual *cereus* type, outer segments brownish red, inner white or whitish.

The plant is reported to be a relic of the Panama-Pacific Exposition, where it was part of

the Brazilian exhibit. It is therefore presumably a native of that country.

The gentleman who may be discerned in the background, thoughtfully viewing the scene, is none other than our learned associate, Eric Walther. J. W.



By MARY NORWOOD LAWRENCE  
Assistant Editor

376 N. Ave. 57, Los Angeles, Calif.

We hear a great deal about how long we have to wait for blossoms on cactus plants, but here is a Mrs. M. E. Norman, of Great River, Washington, 72 years old, who holds the record for patient waiting. After 40 years of careful attention, a night-blooming *cereus* has rewarded its owner for her lifetime of coddling by producing a bloom which remained in its prime for nearly three hours!

Cacti are not popular in England. People know very little about them and seem to care less. Here speaks a Mr. Cooper—F. E. Cooper—of Shanklin, Isle of Wight, England, who tells us "cacti are more or less strangers over here, not natives as they are with you, and they are fairly expensive. One sees an occasional *Epiphyllum*, but you can count on the fingers of one hand the people who really go in for them, and they are real enthusiasts."

Mr. Cooper should know what he is talking about. There is a photo of his green house where he raises cactus, which looks for all the world as professionally correct as any American glass house, and which should lure gardeners and collectors into cactus culture. He is a successful commercial man, whose good-looking illustrated catalogue is before me and who admires our JOURNAL, but who thinks it too technical.

The average Englishman loves to water his flowers. He itches to give his few cacti a good soaking, but finds little encouragement in the JOURNAL. Suppose some of our correspondents enlighten him.

Whether it be Sports—rich men's sports—, their amazing Court House, their Bird Refuge, their glorious gardens, or their Flower Show, Santa Barbara does it all well. All its citizens ask is that the venture shall be a Success and the price to pay will be found.

The recent Spring Flower Show was all that.

The Court with its patio and galleries is, in itself, a picture, and housing thousands of blossoms, contributed by everyone from Botanic Gardens to little Tommy Jones, it became the Garden Beautiful, through which a multitude passed each day.

The Succulent department which interested the JOURNAL readers particularly, was a representative exhibit of subtropicals and attracted the continued attention of such visitors as William Hertrich, of the Huntington Botanic Gardens; the Orpets, father and son; John Vosburg of Pasadena, landscape gardening expert; Harry Johnson, he, of Water Garden fame; Eric Walther, Col. L. W. Jordan, of Bel Air, an official of the Cactus Society, and many others.

A beautiful preface to our Cactus Show in May.



## PEARLS FROM CACTI

*Carnegiea gigantea* has been given some prominent publicity from an entirely new angle, by a recent discovery made by Prof. Ansel F. Hemenway of the University of Arizona at Tucson.

Some new ornamental oddities displayed before a group of botanists at the regular annual



*Carnegiea gigantea*

meeting of the American Association for the Advancement of Science in Cleveland, Ohio, were called Cactus Pearls. As the pearls in oysters are formed by irritation, so are these oddities in *C. gigantea* formed by an injury to the plant. If a rodent or a woodpecker bores into one of the giants of the desert, or any injury that may be made by man occurs to the plant, this wound in its healing surrounds the injury with a hard, impermeable woody tissue that stops the leakage of the internal water and arrests decay; preventing also the entry of germs and insects.

When finally the cactus dies and disintegrates, these hard pieces are found and make very odd ornaments for curio hunders.

G. A. FRICK.

## BOOK REVIEW

**HORTUS**—By L. H. Bailey and Ethel Zoe Bailey—The MacMillan Company. \$10.

A new work by the author of the **STANDARD CYCLOPEDIA OF HORTICULTURE** and the **MANUAL OF CULTIVATED PLANTS**. An amazingly useful volume for either amateur or professional gardener.

Dr. Bailey, who is a past president of the American Association for the Advancement of Science, and who is widely known as a practical grower and an outstanding figure in the botanical world, has written this new volume with great clarity, and especial consideration for the amateur.

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Dr. Bailey mentions The Cactus and Succulent Society in several instances and recognition by such an authority is appreciated by his many cactus friends.

JAMES FOWLER.

## In Appreciation

The Country Home Magazine, published in the January number, a very interesting article, "Cinderella Comes Out of the Desert," by Andrew S. Wing. This Editor's Note followed: If you want further information on the culture of cacti and other plants that come under the heading of succulents, together with a list of where inexpensive plants can be had from reliable plantsmen, send two cents in stamps for our Cactus Leaflet, to Garden Editor, The Country Home, 250 Park Avenue, New York City.

This leaflet kindly mentions The Cactus Society, THE JOURNAL, "Texas Cacti," and "The Cactus Book" as well as a list of many of our own members who are cactus dealers.

Readers of the JOURNAL should mention The Cactus Journal if they take advantage of the above courtesy, or better yet, send 25 cents for a year's subscription beginning with the January number.

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## EXCHANGES

Conducted by MRS. W. M. KETTERINGHAM  
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The Exchange Department is conducted for the benefit of all subscribers to the Journal, and in order to expedite the handling of your requests for exchanges please accompany the list of plants you have for exchange with a stamped self-addressed envelope. Through this Department you will then be put in touch with some member or members of the Society who have the plants that you desire.

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